

Exercise Solutions for Math 20

Linear, Quadratic, and Rational Equations

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1.1 Find the solution set of the following equations.

1.1.a $x + 9 = 5 - 3x$

$$\Rightarrow x + 3x = 5 - 9$$

Solve for x .

$$\Rightarrow 4x = -4$$

$$\Rightarrow x = -1$$



1.1.b $\frac{2x+3}{4} - \frac{x-1}{2} = -\frac{1}{3}$

$$\Rightarrow \frac{3(2x+3)}{12} - \frac{6(x-1)}{12} = -\frac{4}{12}$$

LCM = 12

$$\Rightarrow \frac{6x+9}{12} - \frac{6x-6}{12} = -\frac{4}{12}$$

$$\Rightarrow (6x + 9) - (6x - 6) = -4$$

$$\Rightarrow 6x + 9 - 6x + 6 = -4$$

$$\Rightarrow 15 = -4$$

$$\Rightarrow x = \emptyset$$

